

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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JUL 21 2005

U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DARRELL T. MCKENZIE

Appeal No. 2005-1129
Application No. 09/965,806

ON BRIEF

Before MCQUADE, NASE and BAHR, Administrative Patent Judges.
BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-11, which are all of the claims pending in this application.

BACKGROUND

The appellant's invention relates to a filter element support and anti-prefill valve.

Claim 1, the only independent claim pending in the application, reads as follows:

1. A combination filter element support and anti-prefill valve for use with an annular filter element having an annular filter media with a hollow core and disposed within a housing, wherein the housing is closed by an end plate having a central spin-on outlet opening and a plurality of spaced radially disposed inlets, the combination comprising:

a unitary body having an axially extending annular portion, wherein the annular portion has at one end an annular shoulder extending radially therefrom for supporting the filter element, and a sealing section which engages the end plate over a continuous location which is coaxial with the central spin-on opening, the unitary body being of a single piece, and

the unitary body including a radially extending plate portion defined by a web portion and a peripheral portion, at a second end of the annular portion the plate portion being [supported] in spaced relation to the end plate only at the peripheral portion of [the] plate portion, the web portion having an axially positioned one way valve unitary therewith which opens in an axial direction toward the spin-on opening, the one way valve closing to prevent oil or fuel from flowing through the central spin-on opening and into the hollow core of the filter element and opening when fluid is being circulated is [sic] under pumping pressure.

The Applied Prior Art

The examiner relied upon the following prior art references of record in rejecting the appealed claims:

Hultgren et al. (Hultgren)	3,369,666	Feb. 20, 1968
Buckman et al. (Buckman)	3,567,023	Mar. 2, 1971
Turman	3,802,564	Apr. 9, 1974

The Rejection

Claims 1-11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hultgren in view of Buckman or Turman.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejection, we make reference to the final rejection (mailed January 21, 2004) and answer (mailed November 12, 2004) for the examiner's complete reasoning in support of the rejection and to the brief (filed August 25, 2004) and reply brief (filed January 12, 2005) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. For the reasons which follow, the examiner's rejection cannot be sustained.

Hultgren discloses a three-piece structure which meets the limitations of the combination filter element support and anti-prefill valve recited in the appellant's

claim 1, with the evident exception that this three-piece structure is not a unitary body being of a single piece, as called for in claim 1. The three pieces making up the combination are (1) a sleeve 50, with its horizontal annular flange or rim 54, (2) an outer casing 52 provided with a reverse bend 56 which clamps the casing 52 to the rim 54 and a vertical section 58 inclined upwardly at 60 and terminating in an inturned horizontal rim 62, and (3) an anti-drain back valve 76 made of elastomeric material such as rubber, neoprene or the like (column 4, lines 9-11). The valve 76 comprises a thick cylindrical portion 84 provided with a circumferential slot or recess 90 adapted to receive the inner end of the inturned rim 62. The horizontal rim portion of the sleeve 50 is provided with a plurality of circumferentially spaced oil by-pass ports 68 therein and a by-pass valve disk 64 is disposed on the rim to cover the ports 68.

Buckman discloses an oil filter unit for use in the lubrication system of internal combustion engines comprising a rubber or plastic seal member 20 (Figure 3) formed as an annular disc with an integral outwardly extending resilient flange 21 which normally overlies and seals the inlet openings 16 in the end plate 10 of the filter casing. The seal member 20 has an inner peripheral portion 22 which forms a sliding seal with the neck 17 of the end plate 10 and a neck 24 which extends coaxially from the central portion thereof. The filter unit also includes a generally tubular plastic support tube 30 (Figure 3) formed with castellations 34 at one end thereof which engage in an annular recessed portion 35 of the seal member 20. The portion of the support tube 30 which

fits within the filter element 7 is formed with a plurality of longitudinal and circumferential grooves 36, 37 respectively therein so as to permit filtered oil to pass longitudinally in the spaces thereby provided between the support tube and the inner periphery of the filter element 7. The support tube 30 also has an external radial flange 38 extending therefrom and adapted to abut one end of the filter element 7 adjacent the inner periphery thereof and form a seal therewith. The surface of the external flange 38 facing the end plate 10 is formed with a plurality of protrusions 39 thereon spaced about its periphery so that if the peripheral flange 21 on the seal member 20 is deflected inwardly toward the external flange 38 on the support tube 30, the spaces between the protrusions and the flange will permit fluid flow from the exterior of the filter element to the castellated axially extending portion of the support tube 30. When there is no pressure of oil from the oil outlet 5 the flange 21 seats on the end plate 10 and prevents oil on the inlet side of the filter element 7 from draining back into the outlet passage 5. If the filter element becomes clogged, or the pressure drop across the filter element becomes too high, for example, when the oil is cold, the pressure of the oil will deflect the neck 24 of the seal member 20 from engagement with its annular seat in the support tube 30 and permit the oil to flow directly from the inlet openings 16 to the outlet opening 11 by way of the spaces between the castellations 34 in the end of the support tube 30. The protrusions 39 on the outer radial flange of the support tube prevent such passage being obstructed by the deflected peripheral flange 21 on the seal member 20.

The annular groove 25 (Figure 7) in the neck of the seal member will assist deflection of the neck 24 when the pressure drop across the filter element reaches the critical value.

Turman discloses an oil filter comprising, in the upper end of the core 68 of the filter element 66, a valve 78 of the split diaphragm type made of rubber or the like. The valve has a cylindrical body 80 fitting closely around a nut portion 60 received in the top cap 54 of the filter cartridge and an outwardly projecting flange 83 which forms a seal between the mounting plate 58 and the upper end of the core 68. The valve 78 admits oil into the core but closes against return flow and also prevents leakage of oil between the core and the upper end of the filter element.

The examiner's position appears to be that either Buckman or Turman would have suggested forming the sleeve 50, casing 52 and anti-drain back valve 76 of Hultgren as a one-piece, unitary body. We find no such suggestion. From our perspective, Hultgren, Buckman and Turman disclose substantially different valve structures which serve different functions for use in combination with different surrounding structure. Hultgren's valve 76 is designed to remain seated in the casing 52 but is provided with a duck bill structure whose parallel sides 78 converge to a knife edge 80 forming lips between which the oil can pass from the downstream side of the filter element but prevent the oil from flowing in a reverse direction through the anti-drain back valve when the engine is shut down. Buckman's seal member 20, on the other hand, is movably seated in the top end of a support tube 30 and is designed to permit its flange 38 to be deflected by oil pressure from the oil outlet passage 5 and to

be unseated from the support tube 30 if the pressure across the filter element becomes too high. Turman discloses a valve which sits at the top of the core of the filter element and controls oil flow upstream of the filter element, unlike Hultgren's valve, which is designed to be supported near the bottom end of the filter element core and controls flow of oil downstream of the filter element. Moreover, unlike either Buckman's valve or Turman's valve, the casing 52 and sleeve 50 in which Hultgren's valve 76 is seated also houses a by-pass valve consisting of a by-pass valve disk 64 and a biasing spring 66. The only suggestion for making the modification proposed by the examiner to arrive at the appellant's claimed invention stems from hindsight impermissibly gleaned from the appellant's application. Furthermore, if Hultgren were modified to form the sleeve 50, casing 52 and valve 76 as a one-piece unitary body, it is not apparent to us how the by-pass valve disk 64 and biasing spring 66 would be introduced within such body for assembly therewith.

For the above reasons, the applied references do not support the examiner's conclusion that the subject matter of claim 1 would have been obvious to one of ordinary skill in the art at the time of the appellant's invention. The rejection of claim 1, as well as claims 2-11 depending therefrom, is not sustained.

CONCLUSION

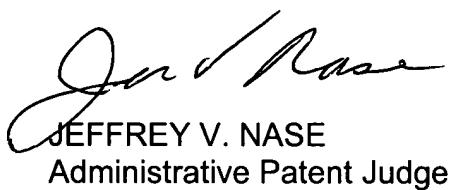
To summarize, the decision of the examiner to reject claims 1-11 under 35 U.S.C. § 103 is reversed.

REVERSED



JOHN P. MCQUADE
Administrative Patent Judge

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) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES



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